

AMERICAN NAVAL STRATEGY AND FORCES TO THE YEAR 2000

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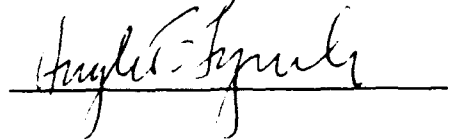
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**AMERICAN NAVAL STRATEGY AND FORCES
TO
THE YEAR 2000**

by
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Abstract

The breakup of the Warsaw Pact, perhaps of the Soviet Union itself, has wrought such great changes upon the geopolitical environment that all previous political and military strategies have been called to question. Not the least of these is that most useful, but now somewhat outmoded Maritime Strategy of the 1980s.

➤ Decreasing force levels in the United States Navy are being driven by economic and domestic political forces with little regard for strategic considerations. The resulting quandary is: Will the United States' naval components be able to execute the Bush administration's National Security Strategy with the forces that Congress is willing to fund?

This paper examines in detail the tools likely to be available to the U.S. Navy by the year 2000, and the alterations to strategy that will be required if Soviet naval forces continue to be modernized at current rates of production. It also deals with the U.S. Navy's role and capabilities in advancing the United States' interests, goals and objectives throughout the world. Whereas the U.S. Navy has been the dominant naval power for nearly 50 years, there are naval forces building which may be strong enough to challenge American naval supremacy on a regional basis.

Finally, the paper concludes with comments on prospects for naval arms control between the two superpowers.

*Keywords: Naval budgets; Balance of power;
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AMERICAN NAVAL STRATEGY AND FORCES
TO THE YEAR 2000

To be able to understand future plans for the U.S. Navy, one must first examine the United States' current national security strategy, and then attempt to determine the Navy's role within that strategy. Secondly, one must look at the available resources to execute the strategy offered.

I. The Bush Administration's National Security Strategy

In March 1990, the Bush administration produced its first edition of the *National Security Strategy of the United States*.¹ Because of the timing of its publication, this document took account of the startling changes that had occurred in Eastern Europe in 1989. It took advantage of the knowledge that the Warsaw Pact, while still a political and military alliance on paper, was no longer a cohesive compact - one which the Soviets could rely upon in the event of war. No longer could one expect that Poles, East Germans, Czechs, Hungarians, Romanians, or even Bulgarians would fight and die for the greater good of the Soviet empire. One might not even expect those nationalities to permit unimpeded transit of their territories by Soviet forces. Further, the political fractionalization of several of the non-Russian Soviet republics had become a fact of life to be dealt with. The single most important element which generated these

changes was admission by the Soviet authorities of the failure of the Soviet economy to compete over the long term with the economies of the more developed democracies of Western Europe, the rim of the Pacific, and North America. As a consequence of their inability to compete economically, they tacitly admitted that they would be unable to compete both technologically and militarily, while at the same time holding the Soviet Union together. Thus, perestroika and glasnost were chosen as means to regain in the long term a competitive posture vis-a-vis the industrial democracies.

Against this kaleidoscopic backdrop, the Bush administration wrote its geopolitical vision for the future. In mapping out *The National Security Strategy of the United States*, the authors set the agenda in a sequence and priority that was both logical and informative: their political, economic, and then, defense agenda. While still paying tribute to the Soviet Union as "the only other military superpower," the National Security Strategy decidedly established the U.S. economy as its priority item and the *sine qua non* upon which defense capabilities could be maintained and built. Whereas, in the 1980s, it was fair to say that the U.S. military was given precedence over the health of the economy, in the early 1990s, these priorities would very definitely be reversed.

In the same document, the United States' goals and interests were shrouded in idealism as well: namely, "a stable and secure world, fostering political freedom, human rights, and democratic

institutions." But there was also no question that "The Global Economy" and the U.S. position in that economy would be the practical standard by which all other political and military activities would be measured.

The Navy's Role in The National Security Strategy

Given these U.S. goals and interests, what clues did the Bush administration give us as to its taskings for naval forces?

In various segments of the document, they told us:

- Regarding strategic nuclear deterrence: that "... maintaining the global strategic balance [with the Soviet Union] is inescapably an American concern; that the U.S. would seek to "moderniz[e] our strategic deterrent"; that "the D-5 missile in Trident submarines will ... add a significant ability to attack more hardened targets."

- Regarding Soviet Conventional Forces: that "we cannot ignore continuing Soviet efforts to modernize qualitatively even as they cut back quantitatively."

- Regarding U.S. interests in the Third World: that the U.S. sees that "the more likely demands for the use of our military forces may not involve the Soviet Union and may be in the Third World"; that "threats to our interests - including the security of Israel and moderate Arab states as well as the free flow of oil - come from a variety of sources"; that "secure

supplies of energy are essential to our prosperity and security ... [this] means we must continue to ensure reliable access to competitively priced oil and a prompt, adequate response to any major oil supply disruption"; that "we have long identified specific interests independent of a Soviet factor ... these interests will command even greater attention."

- Regarding forward defense: that "the forward presence of significant American military forces ... serve[s] as a visible reminder of our commitment to the common effort"; that "our alliance with Japan remains a centerpiece of our security policy"; that "the U.S. security commitment to the Republic of Korea remains firm"; that "we will maintain a naval presence in the eastern Mediterranean Sea, the Persian Gulf, and the Indian Ocean"; that "our forces ... must be able to respond quickly, and appropriately, as the application of even small amounts of power early in a crisis usually pays significant dividends."

- Regarding the unique functions of U.S. Forces: that "as we and our allies adjust our military posture, each should emphasize retaining those roles it is uniquely or better able to fulfill. For the United States, these include ... [inter alia] ... strategic mobility, a worldwide presence, power projection ..."; that "as a country separated from many of its allies and areas of interest by vast distances, we will ensure we have those forces needed to control critical sea and air lines of communication in crisis and war."

- Regarding Arms Control of Naval General Purpose Forces: that "we have rejected [limitations on naval forces] for reasons grounded in the fundamental realities of the free world's strategic interests. The economies of the United States and its major allies depend so vitally on trade and on the security of the sea lines of communication, that we have always defined a vital interest in freedom of the seas for all nations The Soviet Union ... with interior lines of communication ... has no such strategic stake."

- Regarding proliferation of sophisticated weaponry: that "we are especially committed to working to curb the proliferation of nuclear, chemical and other weapons of mass destruction, the means to produce them, and associated long-range delivery systems"; that "it is one of [President Bush's] most important goals to see an effective, truly global ban of chemical weapons -their production and possession, as well as their use."

All of the above goes a long way toward defining the missions that the Navy can expect to fulfill, at least in the near term. The ultimate arbiter in such decisions is, of course, the wherewithal to execute the assigned task, - the platforms, the weapons and particularly the people. In this paper we will not neglect the people, but we will temporarily assume that the Congress will provide the appropriate level of funding for personnel support to complement the platforms and weapons provided.

One can certainly agree that the likelihood of general war between the Warsaw Treaty Organization and NATO, as alliances, has receded and may soon disappear altogether. The governments taking power in most East European countries have opted for independent courses for their nations to provide for their own people; ultimately, there may be exceptions to that generalization, but only time can answer such questions. With eastern Europe in such turmoil and the Warsaw Pact faced with possible extinction as a military alliance, a standard Soviet air-land campaign becomes very unlikely; therefore, the anticipated complementary Soviet Naval campaign loses significance since, by almost any interpretation, the maritime theaters of operations are for the Soviets merely adjuncts to the land campaign. Yet the Soviet Navy is not coming down in deployable force levels at the rate at which the United States is dismantling its not-quite-600-ship Navy.

II. U.S. Navy Force Levels

At the time of this writing, the U.S. armed services have submitted their Program Objectives Memorandums (POM) for 1992-1997 to the Secretary of Defense, complying with his instructions to cut 2 percent a year in real terms - after inflation - throughout the period. While there are many steps to be taken between POM submission and enactment of a budget by Congress, the Program Objectives Memorandum gives us the best guidepost in the interim. The major elements of these budget cuts would be

distributed by the Navy's civilian and uniformed leadership as follows:^{2, 3}

- Reduce the 14 aircraft carrier battle groups to 12.
- Retire 5 SSBNs and 13 SSNs.
- Early decommissioning of 48 surface combatant ships, 7 amphibious ships, and 14 auxiliary ships.
- End the Trident SSBN program with a total of 18 OHIO-class SSBNs.

The major elements of the shipbuilding program in the same timeframe ('92-'97) would include:

- Reducing SEAWOLF-class (SSN-21) construction to two per year.
- Reducing ARLEIGH BURKE-class (DDG-51) construction to four to five per year.
- Seeking funds for a new aircraft carrier in 1996.

The net loss in total ships (including, of course, all types of submarines) would be 61 ships - from 549 at the beginning of the period to 488 at the end of 1997.

In numbers of platforms, this represents an 11 percent cut overall. But in terms of capabilities, we would have to break out the major forces into their components in order to more fully grasp the implications. For the carrier force, a cut of two ships equates to a 14 percent reduction in striking power and air defense capability. For the ballistic missile submarines, the reductions represent little more than compliance with the

proposed Strategic Arms Limitations Treaty (SALT II). For the attack submarines, unless many of the STURGEON - class were retired early, there could be a net gain in the number of hulls as the Navy takes delivery of 20 more 688s, and about five SEAWOLFs requested between 1989 and 1992. In addition, each of these new submarines joining the Fleet would be a vast improvement over the older boats being replaced. For the surface combatants, 50 percent of the active battleships would be retired -- once again; the greatest loss in that respect is the loss of heavy shore bombardment capability for amphibious operations. In the cruiser-destroyer force, the reduction in the number of hulls is essentially proportional to the number of battle groups lost. But the platforms joining the force - the BURKE-class AEGIS destroyers - will represent a vast increase in capability over those ships that they will be replacing.

The Composition and Availability of Battle Groups

In the period under consideration (1992-1997), the BURKE-class destroyers will be joining a fleet that already includes: 13 to 18 of the same class previously authorized - each with 90 missiles enclosed in the Vertical Launch System (VLS); 27 TICONDEROGA-class AEGIS cruisers (most of which will have an inventory of 122 vertically launched missiles); and 31 SPRUANCE-Class destroyers (most of which will have 61 vertically launched missiles). The TICONDEROGA and SPRUANCE classes carry SH-60B helicopters with the LAMPs Mark III system; BURKE can refuel and rearm the same helicopters. Ships of all three classes will have

both active hull-mounted sonars and passive towed array sonars combined in the very capable SQQ-89 sonar system. In all, by 1997, about two thirds of the cruisers and destroyers still in service will be VLS equipped, and two-thirds will have SH-60B helicopters embarked. Most of the remainder will have been provided with upgraded AAW and ASW systems. So for the cruiser-destroyer force, the qualitative improvements represent much more capable battle groups on station if not as many of them.⁴

In terms of deployable forces, the United States would still be able to deploy simultaneously, to forward operating areas, up to four of the twelve Carrier Battle Groups (CVBGs) - on a continuous basis. To grossly oversimplify the scheduling cycle of the other eight battle groups - both their surface combatants and their carriers - four would normally be in various stages of overhaul, upkeep and sea trials, and the last four would be in various stages of at-sea training in preparation for another six-month deployment. This rotational scheme is designed to provide maintenance and modernization for the ships, but more importantly to provide time in the home port for crews to be with their families. The U.S. Navy calls this concept "PERS TEMPO" or "personnel tempo."⁵ In the long run, the attention paid to personnel (including their families) and to their training, yields a more efficient and effective Navy. Among the four CVBGs engaged in at-sea training, the two furthest advanced in operational readiness could sometimes be designated as surge assets in the event that emergencies arise overseas.

We should not overlook the two Battleship Battle Groups (BBBGs) that would remain in commission through the period covered by the most recent Program Objectives Memorandum (1992-1997). While lacking in high-performance fixed wing aircraft, the Battleship Battle Groups nevertheless possess formidable capabilities for anti-surface, anti-air, and antisubmarine warfare. In areas where the air threat is less intense, a BBBG can establish a naval presence in lieu of a CVBG. But their most functional combat contribution can be made as protection for amphibious task groups and their assault forces.

Since 1975, the United States has been able to keep, on the average, four CVBGs forward-deployed among the Western Pacific, Mediterranean and Indian Ocean from a working inventory of 13 to 14 deployable carriers.⁶ From the statements included in the latest *National Security Strategy*, one can read the intention of the current administration to maintain a similar posture. Among the Mediterranean Sea, and the Western Pacific and Indian Oceans, it would seem reasonable to anticipate a forward presence of three CVBGs; a fourth might sortie to the Caribbean and North Atlantic periodically or supplement the power of any of the other three, as required. It should be recalled that any time a carrier group has been sent into combat in the Mediterranean in recent years, there has been at least one other in company - e.g. Lebanon in 1983⁷, Libya in 1981⁸ and 1986.⁹ In fact, whenever the likelihood of sustained combat operations arises, it can normally be anticipated that two or more CVBGs would be on

station before the U.S. Navy would choose to initiate or respond to hostilities even in the Third World. There are too many potentially hostile countries on the littorals of the world's oceans and major seas which, although not substantial naval powers, nevertheless possess very capable tactical air forces with antiship missiles. The United States Navy was painfully reminded of that threat when USS STARK was hit by an Iraqi missile in the Persian Gulf in 1987. One other fact that demands the attention of the U.S. Navy is that, exclusive of the Warsaw Pact, NATO and other U.S. allies in the Pacific, there are 24 other nations that collectively possess over 250 attack submarines.¹⁰ Among them are several adventuristic nations with goals inconsistent with those of the U.S.; whenever U.S. naval forces pursue interests inimical to such countries, they must do so with a full ASW capability inherent in the task group.

If we were to ignore, for the moment, any threat from the Soviet Union coincident to a single crisis in the Third World, one would think that the 488 combatants and auxiliaries remaining in the U.S. Navy's 1992-97 Program Objectives Memorandum would be a sufficient force for the "forward presence" and initial crisis-response modes of operation. For example, for a crisis in the Persian Gulf, the Navy could quickly have a minimum of two CVBGs on the scene and bring forward one or more additional Battle Groups to reestablish a naval force-in-being on the recently vacated stations. If the crisis situation or combat become prolonged, the problem then becomes one of an eventual

degradation of personnel and material readiness. In a two-crisis scenario, with one crisis in the Mediterranean or Korea in addition to one in the Persian Gulf, the U.S. Navy could muster up to six CVBGs in less than a month by pulling out all the stops and by sailing forward every group that was close to being ready for a prolonged deployment. In addition, for at least six months of the year, a BBBG should also be combat-ready in local (U.S.) waters or already on extended deployment. This represents a rather substantial capability. In some scenarios, it would also be possible to quickly forward-deploy shore-based U.S. Air Force tactical air assets.

Therefore, in response to Secretary Cheney's 2 percent per year cut (after inflation), the U.S. Navy's force level proposals would appear to be a tolerable reduction in force as far as the strictly Third World presence and crisis scenarios are concerned.

The resource difficulties begin when Congress decides that it wants to cut deeper into U.S. national defense assets in order to shore up the economy or increase the allocations to domestic programs. There are those in the United States who think that Defense spending can be cut not just by 12 percent from the Fiscal Year 1991 level, but by as much as 25 to 50 percent in "real" - that is, inflation-adjusted dollars. Seldom mentioned is that, by 1992, the Defense budget will have shrunk already by more than 18 percent from the Reagan administration's 1985 budget - the high water mark since the Korean War - if Congress cuts as

forecast for 1991.¹¹ What is also not mentioned is that to make cuts of 25 or 50 percent in the budget is to require much deeper cuts in operations and operating forces since fixed overhead costs will not drop as quickly in either relative or real terms. The U.S. democratic system of "pork-barrel" politics will ensure that efficiencies in infrastructure take precedence after protecting jobs in congressional districts.

Nevertheless, one of those speaking out for further cuts, beyond those being sought by Secretary of Defense Cheney, is a former Secretary of Defense from the Nixon administration, James R. Schlesinger. This thoughtful and well-respected gentleman was recently quoted as having said: that with a carefully planned reduction of 25 percent, [for the entire Defense Department,] "I think we can continue to play the role of global superpower that we're accustomed to." However, in the same interview, Schlesinger cautioned: "I've witnessed two major cuts since World War II and both times we've lived to regret it," referring to the late 1940s and the 1970s after the Vietnam War. It is also noted that Mr. Schlesinger did not advocate a straight 25 percent cut for all services across the board.¹² In fact, Mr Schlesinger favors holding the line on Carrier Battle Groups at 12. He was recently quoted in a New York Times article thus: " 'If we had to deal with a crisis in the Persian Gulf' like an Iranian threat to friendly Arab countries, he said, 'we'd certainly want three or four carriers out there. Then we

couldn't deal with fires that break out in the Grenadas of the world.' "13

The 25 and 50 percent cuts proposed actually have two different timeframes for accomplishment. First, addressing the 25 percent cut attributed to one group of "experts," it would be accomplished in five years - by 1995. These people project that in that timeframe, the U.S. Navy could be down to 10-12 aircraft carriers and, therefore, 10-12 CVBGs.¹⁴

Before the U.S. Navy would offer up two more CVBGs, (below the level of twelve), it would most likely decommission the last two battleships, USS MISSOURI and USS WISCONSIN. From 1990, such force level cuts would drop the Navy from 18 battle groups (including 4 BBGs) to not more than 12 battle groups, with no battleships remaining in commission. That's a rather precipitous drop - 33 percent of deployable surface combatants. Yet it would still permit forward-deployment of three to four groups at all times. However, it would probably not reduce the budget sufficiently for a 25 percent dollar reduction. One reason for this is that carrier air wings, while providing more combat services than battleships, also cost more to procure and maintain. Therefore, it's possible that some in Congress would seek to decommission an additional one or two carriers, with associated air wings, combatant escorts (including submarines), and combat logistics ships. For the sake of explanation, the capabilities of the lower force level will be explored.

Ten battle groups, with one-third of them in upkeep and another third in training, leaves at best three CVBGs forward-deployed with a maximum emergency surge capability of one or two other fully ready groups - in the event of multiple crises. (To maintain a Battle Group in the Indian Ocean, for only six months of the year, presumes that one of the three forward-deployed Battle Groups is homeported in Japan). To respond to a serious threat, for example, in the Persian Gulf, would normally require abandonment of another station in the Mediterranean or Western Pacific or even both of them, since the transit time for a battle group to the Arabian Sea from the continental US would normally be about 25 days.

The final "budget drill" to consider is that of those who would seek a 50 percent reduction in Defense over the ten year period 1990 - 2000. Perhaps most vocal of this group is William W. Kaufman, formerly in the service of the Defense Department as a consultant but currently of Harvard University.

Kaufman's bottom line for general purpose naval forces (as compared with nuclear "strategic" forces - SSBNs) would be 6 CVBGs.¹⁵ Such a force could provide two CVBGs for overseas deployments, but, proportionally, even less responsiveness to crises as these two units would be spread across nearly the entire globe. To present a viable force to counter-balance even a second-rate antagonist - one with a weak navy but a fairly capable air force - would take, at the minimum, both carrier

groups, and perhaps, in an emergency lasting more than a month, the entire U.S. Navy's deployable general purpose force of surface combatants. Such would be a non-interventionist's dream, both in the United States, where that political point of view exists in abundance, and in the nation that happened to be threatening U.S. national interests. Having the U.S. Navy so neatly bound in one locale, the circumstance could provide opportunities and lend encouragement to other adventurers.

Aside from embarked "tactical" nuclear weapons (not a thought most U.S. non-interventionists would care to address) such naval force levels would give new meaning to the term "paper tiger."

Another factor weighing against the proposal to reduce battle groups to a total of six is the available service life for the ships that would be sent to mothballs or scrap. To reach the Cheney goal of a 14 percent budget cut, the Navy proposes to cut two carriers. But to cut force levels by an additional six carriers by the year 2000 would mean early retirement of nine carriers with an average life remaining of fourteen years each.¹⁶ This would be an even less likely option for Congress - throwing away a paid-up insurance policy.

On the other hand, if only the carriers now built or under construction were maintained as planned until 2010, with no new

procurement, the United States would still have eight deployable carriers in that year.¹⁷

Attack Submarine Force Levels

In these budget excursions, what are we likely to see for the U.S. Navy's fleet of nuclear attack submarines? In 1990, there are 91 active SSNs in the inventory, of the PERMIT (SSN-594), STURGEON (SSN-637) and LOS ANGELES (SSN-688) classes.¹⁸ Under the Navy's POM-92 response to Secretary Cheney, 13 attack submarines would be retired in the period '92-'97. By 1997, that could leave the Navy with 62 LOS ANGELES-class submarines, about 30 of the STURGEON-class, with probably five of the new SEAWOLF (SSN-21) class in commission and an additional ten authorized under a procurement profile of two SEAWOLF per year. The resulting total of 97 nuclear attack submarines in commission by 1997 is quite unlikely however, since even in the best of times the U.S. Navy has not reached its goal of 100 nuclear-powered attack submarines in active service. One hundred SSNs was the goal of the 600 ship Navy - at the level of 15 CVBGs and 4 BBGs. The lower Battle Group levels could reduce SSN requirements by up to 14 submarines. Even the Assistant Chief of Naval Operations for Submarine Warfare has admitted that SSN force levels could be below 80 by the turn of the century.¹⁹ A likely scenario for this total would include the retirement of all the STURGEON class as they reach 25 years commissioned service; in the year 2000, all of them could have been decommissioned. At that point the

oldest of the LOS ANGELES class would be just approaching 25 years service life.

But what a superior submarine force that would be! The 62 LOS ANGELES submarines have been receiving a number of updates over the years, since the first commissioning in 1976, in order to increase their weapons lethality and improve quieting. Since 1988, new deliveries have been designated I-688s for "Improved" versions; they possess more than double the performance of the original class production. The Improved 688s are both faster and quieter; they contain improved sensors and significantly increased fire power.²⁰

The SEAWOLF will be 30 times quieter than the original LOS ANGELES. It will have double the fire power of the most advanced operational Soviet submarine, and will have the highest tactical speed of any submarine in the world.²¹ So even at the level of about 75 SSNs by the turn of the century, this force could fulfill all commitments for presence, crises, and limited wars in the Third World. (We'll leave discussion of the Soviet equation until later.)

While this wholesale early decommissioning of attack submarines would represent a nearly 25 percent cut from peak force levels, it would not yield a similar reduction in terms of budget. For the second and third ships of the SEAWOLF class the price tag is \$1.7 billion each; even when in serial production,

the SEAWOLF will be considerably more expensive to procure than its predecessors; the vastly improved capabilities do not come cheaply.²²

Yet in the dangerous world of the 1990s, it is difficult to imagine the early disposal of STURGEONS, each with five years useful service life remaining. And it would be folly for the free world not to stay ahead of the Soviets in submarine warfare and anti-submarine warfare. So unless the Soviets demonstrate a substantial decrease in shipbuilding in its next five-year plan (1991-1995), then it is not likely that the U.S. Navy would reduce its SSN force to 75 in this century, nor relax its commitment to SEAWOLF below the level of two per year.

Amphibious Ships

While the force levels of surface combatants and auxiliaries generally follow the force levels of the centerpieces of Battle Groups, i.e., multi-purpose aircraft carriers and battleships, the amphibious force level has occasionally been decoupled from the across-the-board increases and decreases.²³ Even prior to the events of 1989 in eastern Europe, achievement of the goal of being able to lift simultaneously the assault echelons of both a Marine Expeditionary Force and a Marine Expeditionary Brigade, had slipped from the mid-1990s to the late 1990s.²⁴

At the current rate of construction for amphibious ships, together with the FY-91 Navy budget submission for new construction, the MEF plus MEB lift capability would stay on track as a goal.²⁵ But the early retirement of seven ships, as proposed in POM 92-97²⁶ would ensure only about the same number of amphibs in active service as there are now - 62. That's about a dozen ships short of the goal of the 600-ship Navy. If this force were to face a total cut of 25 percent of the 1990 force level - about 16 ships - then there would be barely enough ships in commission to lift the assault echelons of two Marine Expeditionary Brigades - about 25,000 troops, their helicopters, and equipment. In a dire emergency, that amphibious ship inventory could, over time, muster a maximum of about 40 ships (six others would be unavailable due to overhaul and other long term maintenance requirements). However, for normal rotational forward-deployment requirements, there would be no more than eight to ten on station on a regular basis - enough for one Marine Expeditionary Unit embarked in the Pacific and one in the Mediterranean. Such units - with a reinforced Battalion Landing Team - and a composite helicopter squadron - 2500 men in all - would usually be sufficient to conduct non-combatant evacuation operations (NEO), anti-terrorist operations and raids only. To take and hold ground, the larger Brigade is the minimum-sized force.

However, the Corps is also reported to be due for a reduction of 38,000 Marines by 1997.²⁷ Even with such a

reduction, the Marine Corps would still have the ability to generate two amphibious brigades and three other brigades to deploy by strategic airlift to marry up with forward positioned equipment in the now existing three Maritime Prepositioned Squadrons, which total thirteen ships in the Pacific, Atlantic, and Indian Oceans. While these Marine forces remain the most responsive and capable expeditionary forces in the U.S. inventory, in a large Third World contingency they would most likely require eventual reinforcement by Army units. But at the outset, they provide the greatest firepower for the least airlift, in large part because their combat equipment and sustainability can be in theater aboard amphibious shipping or MPS shipping.

U.S. Naval Reserve

An issue to be contested within the U.S. Navy and its Naval Reserve, as well as with Congress, is the issue of how much money can be saved by transferring ships to the Naval Reserve Force. Of course, it's not simply an issue of dollars. As well, it's an issue of mission and capability to perform that mission.

As of mid-1990, the Naval Reserve Force was assigned 30 frigates, 2 tank landing ships, 18 minesweepers, and 3 salvage ships.²⁸ All are manned by an active duty cadre which is augmented by Naval Reservists for drills on weekends. In addition, two Reserve Carrier Air Wings and 13 Reserve Maritime

Patrol Squadrons comprise most of the Naval Air Reserve units which are assigned, for the most part, front-line aircraft. They also have a cadre of active-duty personnel who are augmented by "weekend warriors."

Since the inception of the Cold War, and coincident to the Korean War, the ships of the Naval Reserve Force have had two abiding characteristics: first, they were ship types that would be in greater demand if a major war were to occur with the Warsaw Pact, and secondly, they were not the most sophisticated ships of the line. Although a challenge for most "full-time" sailors, the older destroyers, frigates, and mine sweepers were not as demanding to maintain and operate as a nuclear submarine or an aircraft carrier. So the capabilities and equipment of the Naval Reserve Force matched nicely with the greater needs of a worldwide conventional war for ASW prosecution in the sea lines of communication to Europe and the Pacific; they also coincided with the need to clear continental U.S. ports of any mine threat.

In the rush to disarm before the Soviet Navy does so, some in Congress and elsewhere would put more ships into the Naval Reserve Force in order to save money. Some have suggested that the Navy could save up to 40 percent of their operating costs if more ships were taken from the Fleets and assigned to the Naval Reserve Force; the former Secretary of the Navy John Lehman -- himself a long-time Naval Reservist -- is among those advancing such proposals.²⁹ The current uniformed Navy leadership has

replied that only 10 percent of the cost of operating and maintaining a frigate would be saved by putting such ships into the NRF if they are to be manned and operated at the Reserve's current training pace at sea.³⁰ Additionally, they say, for the ships currently in the NRF, reservists have volunteered to fill only 75 to 80 percent of the billets available.³¹

So it is unlikely that the NRF will receive additional ships. If one assumes that the Navy's current leadership is correct, the decommissioning of one frigate should save about as much money as putting ten in the NRF. At any rate, the necessary volunteers for reserve ships are in short supply already.

The other part of the Reserve problem is mainly political, but overflows into daily operations and retention of regular Navy personnel. It's a political issue in that, short of a declared national emergency, it is not smart to stir up Congress and segments of the American electorate by asking reservists to serve in combat, rather than members of the costly, all-volunteer regular forces. A former Assistant Secretary of Defense for Manpower and Reserve Affairs, Lawrence Korb, recently proposed a solution to the Naval Reserve quandary: "... give the reserves capabilities you would want only in a big war, and give the active force the capability to handle anything short of a big war, and keep the two missions separate."³²

For the U.S. Navy, this also makes sense. As the outgoing Chief of Naval Operations, Admiral Carlisle A. H. Trost remarked in a recent interview: "The major driver is the need for deployable units to meet our forward-deployed commitments, and those units have to be supportable and capable of operating in any contingency situation, with or without pre-mobilization of reserve elements." Trost would "foresee that as the active forces contract, there will be some probable contraction in the size of the Naval Reserve Force."³³

If the political realities do not encourage the forward deployment of reserve units, the bottom line is that the uniformed Navy leaders want more active ships to reduce the operational tempo for active deployers, rather than a 10 percent savings in an operating Naval Reserve Force ship which cannot, for practical or political reasons, be deployed overseas in any but the most dire emergencies.

Although, in times of budgetary stress, the regular Navy contingent might like to cut Naval Reserve Force ships, the Reserve and National Guard lobby is likely to win some concessions from Congress. The same is true for the aviation side of the house. Reserve squadrons are likely to stay at home for all but the most extensive conflict. For the reserve carrier air wings, their tactical aircraft also provide a ready pool of assets for replacement of active squadrons' combat losses. Since reserve maritime patrol squadrons are also retained for the "big

war" contingency, it is likely that they too will eventually suffer some budgetary-induced attrition, similar to that of the active forces and naval reserve ships.

Given the Bush administration's goals and interests, it would seem that the move to eliminate 25 percent or more of the Navy's active ship inventory would be hard fought in the halls of Congress. It is unlikely that radical Arab states can be convinced of U.S. interests in providing support to moderate Arab states and, more to the point, their oil assets, without the U.S. being in the neighborhood on a long-term basis with the dominant naval force. Neither can one be a stabilizing influence among the regional powers of the western Pacific without a substantial and continuous presence there; and one can certainly not persuade the opposing forces in the Levant and the Maghreb to maintain friendly relations with their neighbors and to renounce terrorism absent a stabilizing influence in the Mediterranean, one capable and willing to punish transgressions with force. One might be lacking in leverage in any number of "hot spots" around the globe were it not for a regular and visible naval presence to express in a concrete fashion U.S. national interests and intentions.

III. Allied Naval Capabilities in the Third World

One might think that there are a number of other nations, both within NATO and in the Pacific who share the Bush administration's "commitment to a free and open international economic system ... to enhance world prosperity as well as to

reduce political friction among nations ... to help preserve the international equilibrium - globally and regionally - in support of peace and security."³⁴ Certainly, there are many nations which would share in such goals.

But in the stampede of free nations rushing to cash in on their "peace dividends," few are likely to individually possess in their entire navies the conventional sea control and power projection capabilities that the U.S. embodies in one Battle Force - an assembly of two or more Battle Groups. For decades, the NATO alliance has divided responsibilities for certain capabilities among the allies most capable of responding to the individual elements of the Soviet threat. For example, until 1987, the United States possessed only enough capability in mine warfare to be able to clear U.S. ports in the event of a global war with the Soviets - three active minesweepers with 18 in the Naval Reserve Force. At the same time, the European allies possessed over 200 mine warfare ships. At the other end of the spectrum of conventional naval warfare, none of the allies operate any aircraft carriers with the capabilities of the U.S. carriers for multi-mission sea control and power projection in a high threat environment. Of the fourteen non-U.S. carriers operational in the world today (including the Soviets'), the most capable embark fewer than half the aircraft that a U.S. carrier would embark - with substantially less than 50 percent of the capability of the U.S. ships. Both France and India have two new carriers in construction or on the drawing boards; neither

design, however, is anticipated to have embarked air wings that will reach the 50 percent benchmark vis-a-vis the U.S. carrier air wing. The same is true for the Soviets' four operational KIEV-class carriers.³⁵ The Soviets currently have the first of two new multi-purpose conventionally powered 65,000 ton TBILISI-class carriers performing sea trials in the Black Sea with their first sea-going conventional take-off-and-landing (CTOL) fixed-wing fighter and attack aircraft in operation. They also have a new larger (75,000 ton) class of nuclear-powered, multi-purpose aircraft carrier in construction.³⁶

So there is no other nation allied with, or friendly toward the United States that can bring to an open-ocean or power projection environment, a task group with adequate air assets with which to challenge, for instance, a determined Iranian or Iraqi bid to control the Persian Gulf from air bases ashore. With so few fixed-wing capable flight decks in any of the other navies, when one of their two (or three) carriers are in overhaul, the most fixed-wing aircraft that could currently be brought to bear from the sea would be 40 - by a French carrier. This is hardly enough to stand toe-to-toe with the Libyan Air Force. Not that aircraft are the only platforms that can destroy aircraft. The Royal Navy reminded us of that during the Falklands-Malvinas conflict of 1982. Yet, while British destroyers and frigates destroyed 13 Argentine aircraft, they also suffered the loss of four escorts and sustained damage to

nine others as a result of Argentine air attacks - 54 percent of their escort force.³⁷

IV. The Soviet Navy

After some rather realistic, perhaps even optimistic projections of how small the Americans' navy could become over the next seven to ten years, what is it that we see for the Russians' navy?

In his foreword to *Jane's Fighting Ships 1990-1991*, Richard Sharpe takes note of the fact that the list of the Soviets' recent warship deletions (from 1987 through early 1990) "reads more like a memorial for the weaponry of the 1940s and 50s than a serious attempt to reduce capabilities." Included in that list are the following (with their approximate dates of commissioning in parentheses): 40 diesel submarines (1951-62); 6 nuclear attack submarines (1960-67); 9 cruisers (1950-54); 47 destroyers (1949-72); and 38 frigates (1952-60) - a total of 140 ships of the size of frigates and larger. Sharpe follows with the observation that "At least scrapping these venerable classes is a step in the right direction but there are still another 17 nuclear submarines, more than 80 diesel-powered boats [submarines], three cruisers and 25 frigates to go before even the 1950s vintage stock is finally exhausted."³⁸

Actually, Jane's nominations for retirement are conservative. If one were to survey the submarines alone that have somewhat obsolescent weapons systems, one could nearly double the number that could be "paid off" as economic adjustments in the spirit of perestroika - another 184 submarines above the number already retired. But obsolescence of submarine hulls and weapons systems will eventually take their toll and by the year 2000 - most of those should be gone.³⁹

As the United States Navy proposes to halt SSBN production; to limit SSN construction to 2 per year; and to begin retiring STURGEON-class submarines with service life remaining, what does the Soviet submarine construction program look like? Six Soviet submarine classes are currently in series production: VICTOR III, AKULA, and SIERRA-class SSNs; the DELTA IV SSBN; the OSCAR II SSGN; and the KILO SS (the latter mostly for export.)⁴⁰

In 1989, the Soviets launched nine submarines - as many as they have launched in any year since 1982. And whereas in 1989 only about one-third of their total SSN inventory were of the modern VICTOR III, AKULA and SIERRA classes, their ranks could double by the end of the decade. Similarly, their SSGN force is improving in quality with the OSCARS replacing ECHO IIs; the OSCAR has a significant noise and speed advantage, and carries three times the payload of the ECHO II; OSCAR's missiles are a great improvement over its predecessor's.⁴¹

By the end of the century, should the Soviets continue building at the rate of seven attack submarines per year, (with an average of three of those for annual export,) their force of attack submarines would still be at least twice the size of the U.S. Navy's SSN force (>150:75), and qualitatively it would be vastly improved over the capabilities of its current force.

How would the surface combatant forces of the two nations compare? To properly assess the Soviets' "blue-water" navy with that of the U.S. Navy, we will limit our coverage to ships the size of light frigates and larger. In 1990, the Soviets have 260 ships in this category - from nuclear-powered KIROV-class battle cruisers and KIEV-class aircraft carriers to PETYA-class light frigates (a total of 122 FFLs). The U.S. has 223 ships (including Naval Reserve Force combatants) ranging from her 14 large deck multi-purpose aircraft carriers to the 46 lightly-armed KNOX-class frigates. By the year 2000, the Soviets could be down to about 210 "blue water" surface combatants (including 90 FFLs) if they only completed those ships already building or authorized. On the other hand, if their current escort building rate were to continue, they could have up to 245 major surface combatants by the year 2000.⁴²

The U.S. Navy could be down to about 160 surface combatants with only the POM '92 cuts - about a 14 percent budget reduction, not the deeper 25 or 50 percent cuts some people recommend. Ship for ship, the U.S. combatants are generally superior in each

warfare area. But there are some classes of Soviet cruisers (KIROV and SLAVA) and escorts (UDALOY and SOVREMENNY) which are at least very competitive.

To date, the Soviet construction programs show little abatement. Only the KIROV class appears to have been terminated at four hulls instead of the anticipated five. If their escort construction programs continue as before, and if these major ships are retained for 35 years, then the higher forecasts listed above (245) will hold true. In their surface combatants as well, Soviet quality will improve even as U.S. quality improves.

If the Soviets are going to reduce their shipbuilding program, we should begin to see such moves in overhead photography fairly soon; the five-year economic plan for 1991-1995 should be very telling of their intentions.

V. The World's Two Largest Navies in Confrontation:

Case I: In the Third World

Increasingly it has become more difficult to conjure up scenarios wherein U.S. and Soviet vital interests would clash; there has been more convergence of goals and objectives in the last year than at any time in nearly a half century.

But for the sake of example, let us consider the possible outlook if the United States were to assume a threatening posture in the year 2000 against a Third World nation about to interrupt

by invasion, a large portion of the oil supplies to Western Europe, Japan, and the United States. Even if reduced to the level of twelve Battle Groups, the United States could have a two or three carrier Battle Force in the Arabian Sea within two to three weeks. If the Soviets had regressed politically to the point where they wished to support the aggressor ashore by interposing their own naval Task Force, what might they arrive with? In combination from the Northern and Pacific Fleets, they could muster two OSCARS, two AKULAS, one SIERRA, and up to six VICTOR IIIs in support of a surface force that might include an array of three carriers. At the high end of the spectrum, this might include one nuclear-powered UL' YANOVSK (approximately 75 aircraft embarked), one TBILISI (60 aircraft embarked), and one KIEV (35 aircraft embarked); plus a KIROV nuclear-powered battle cruiser; a SLAVA cruiser; four KARA and KRESTA cruisers; and up to eleven guided missile destroyers and frigates. In terms of percentage of ships of each class, such a force would use no more than 25 percent of any class of ship with the exception of the two large deck carriers; by the year 2000, UL' YANOVSK and TBILISI could represent half of their projected classes of two each.⁴³

Normally a U.S. 3-carrier Battle Force would include up to six SSNs and at least 18 other surface combatants, plus the supporting Combat Logistic Force ships.

Table I: HYPOTHETICAL US/USSR OPPOSING BATTLE FORCES
IN A NON-EUROPEAN SCENARIO IN THE YEAR 2000

<u>SOVIET NAVY</u>	<u>U.S. NAVY</u>
2 OSCAR SSGN	2 SSN-21
2 AKULA SSN	4 SSN-688
1 SIERRA SSN	
<u>1 VICTOR III SNN</u>	
6 SSN/SSGN	<hr/> 6 SSN
1 UL'YANOVSK CVN	3 CV/CVN
1 TBILISI CV	
1 KIEV CV	
1 KIROV CGN	6 CG-47
1 SLAVA CG	6 DDG-51
4 KARA/KRESTA II CG	6 DD-963
7 SOVREMENNY/UDALOY DDG	
2 KRIVAK III FF	
<u>2 BALCOM 8 FFG</u>	
up to 20 surface combatants	<hr/> up to 21 surface combatants

If the scenario appears far-fetched politically, perhaps it is. But the scenario is not that important. What matters is the capability of the Soviet Navy to oppose the U.S. Navy with a high quality force in sufficient numbers. The converging task forces should be within the capabilities of both navies. As a strictly interposition gambit by the USSR, these deployed forces could be rather evenly matched at a single point in the world of the Soviets' choosing. Interesting permutations on this line-up can be derived if the U.S. were to have but 6 or 9 Battle Groups in the inventory, instead of twelve. The Soviets' force could be slightly reduced by a marked decrease in new construction below their levels of production in the 1980s - a decrease that we have not yet seen.

If the American commander thought the threat of combat between the U.S. and USSR were real, he would undoubtedly be asking for more submarine and anti-submarine forces. If up to 25 percent of a submarine force of 75 SSNs were allocated to one theater, he could get another dozen submarines, only one of which would be an SSN-21. In other areas of naval warfare - anti-surface and anti-air particularly - he might be confident of superior forces and weapons, but would have to acknowledge a high probability of receiving much more than a bloody nose.

The purpose of this hypothetical situation as used in this paper is not to try to forecast Soviet intentions, but rather Soviet capabilities should their naval construction program continue apace, while the U.S. Navy suffers only a 14 percent reduction in funding.

The issue in the year 2000 would not only be one of numbers of available ships but the quality and capabilities of those ships. American naval commanders are not now accustomed to being confronted with Soviet task forces which combine the qualities of OSCARs, AKULAs, SIERRAs, KIROVs, SLAVAs, SOVREMENNYS and UDALOYs all at once, let alone adding three classes of aircraft carriers on top of the others.

The World's Two Largest Navies in Confrontation:

Case II: Global Conventional War in the Year 2000

Because the fears of escalation to nuclear war are still every bit as real as they were before 1989, it remains most difficult to imagine what could possibly bring the Soviet Union or NATO to commit to war. Nevertheless, since the primary strategic objective of the United States and NATO is and long has been the prevention of such a conflict, it may be useful to look at the deterrent value of the U.S. Navy at force levels below the current 549-ship navy.

In considering the lower force levels on both sides, one must first admit that the correlation-of-forces equations will have changed substantially by the year 2000. We should look first at the submarine balance since that will basically determine what can and should be done with the remainder of the U.S. Navy and, conceivably, with the NATO navies.

In the mid-1980s, the U.S. Maritime Strategy maintained that an offensive, forward posture, taken prior to the outbreak of hostilities with the Soviet Union, would generally contain the Soviet fleet in defensive huddles to provide shelter for their ballistic missile submarines, and also to protect the air and sea approaches to the Soviet homeland. At that time, the Soviets had 62 SSBNs and about 110 nuclear powered attack boats -- 49 SSGNs and 61 SSNs.⁴⁴ In other words, they had about one SSN for every

SSBN. Many of the SSNs would have been used to "ride shotgun" or otherwise protect the "boomers" (the SSBNs). At the same time, the U.S. had 90 nuclear attack boats for both defensive and offensive operations.⁴⁵

By the year 2000, the Soviets should maintain between 20 to 30 SSBNs in order to comply with SALT and START treaty limitations. At the same time, they could have approximately 100 SSNs and nearly 30 SSGNs. Two thirds of the SSNs should be the quieter AKULAs, SIERRAs, and VICTOR IIIs; more than half the SSGNs should be OSCARs.

By the year 2000, the U.S. could have as few as 75 SSNs total -- 62 LOS ANGELES CLASS and about 13 SEAWOLF SSN-21s.

Even now it is generally acknowledged that in Europe, mobilization for a Soviet ground and air offensive would give NATO months, perhaps even years, of "I&W" - Indications and Warning. With such a long period of warning, there would be no good reason for the Soviets not to preposition their fleet optimally - both with respect to location and timing.

To very conservatively estimate the available Soviet submarine force, we would anticipate that up to 20 percent of their SSGNs and SSNs would be unavailable due to material and maintenance factors. Still there would remain an operational inventory of over 20 SSGNs and about 80 SSNs.

The Soviets might employ up to 30 of their best SSNs (AKULAs and SIERRAs) in "riding shotgun" or on barrier patrols for their SSBNs. This still leaves a minimum of 50 operational SSNs and 20 or more SSGNs available for other tasks.

If the U.S. Navy's doctrine required each Battle Force to be comprised of at least 3 CVBGs, then at the maximum, the U.S. would have four Battle Forces worldwide which might be hunted by 20 SSGNs and at least 20 of the quieter SSNs (i.e. VICTOR-IIIs or better) - ten hunters per Battle Force. The Soviets would still have about 30 other noisier SSNs for support of their surface combatants and for SLOC interdiction. In addition, a total of over 30 operational diesel boats - KILOS and TANGOs - should be available for the seas closer to the Soviet Union.

It is the strong downward revision in the number of Soviet SSNs needed for SSBN bastion protection, and the increase of nearly 40 SSNs in their total force that changes the nuclear submarine force correlations for the year 2000. Of course a decrease (from the mid-eighties) of 15 in the number of U.S. SSNs also affects the equation.

The foregoing employment scheme may not come close to a hypothetical Soviet Navy battle plan in the year 2000. But it does amply demonstrate why the U.S. Navy's number one priority is, and should remain, anti-submarine warfare. SEAWOLFs and Improved-688s could be in very short supply. As Soviet ASW defenses, including minefields, become even more formidable over

the next decade, the avowed objective of the U.S. Maritime Strategy of the 80s, to pursue and destroy Soviet SSBNs, may no longer make sense. It is also likely that a forward, offensive U.S. surface fleet, prepared to "take the fight to the enemy", might want to hold back somewhat until we have sorted out the ASW problem. This is not to say that the surface fleet won't earn its keep in the real world of crises, contingencies, and local or regional wars.

What we do mean to say, however, is that in the very unlikely event of worldwide conventional war with the Soviet Union, circa 2000, a more cautious advance of U.S. surface combatants to forward positions might be prudent. Our sub-surface and land-based air ASW assets might be used to reduce the Soviet submarine threat prior to attempting to conduct power projection operations from carriers and other surface combatants.

This has implications for the early defense of such places as Norway, Greece and Turkey, and even Japan. If naval surface- and tactical-air-forces are not in a position to be able to help in defeating an early Soviet air offensive, what effect would that have on the establishment of air superiority by either side, and ultimately upon the ground campaign? The answers to such questions go far beyond the scope of this paper. But, assuming the continuation of a vigorous Soviet submarine construction program, the questions do establish some doubt as to the contribution of NATO naval forces to the land campaign, at least early on. It would seem that in the post-CFE environment, NATO

nations should be looking for more self-reliance in the many facets of air defense. The feeling of comfort and security, engendered by the American Navy in crises and contingencies, may not be applicable if it ever came to the highly unlikely prospect of global conventional war with the Soviets. If NATO failed in its pre-war mobilization and reinforcement efforts, we could expect the much larger and more available Soviet SSN force to stalk the Allies' sea lines of communication in an aggressive interdiction campaign.

VI. The Other Principal Navies of the World

The United States' primary interests and objectives for the Third World are no different than they are for the world at-large: "a stable and secure world fostering political freedom, human rights, and democratic institutions."⁴⁶ Certainly, within those interests and objectives, the United States seeks no quarrel with other nations. Fortunately, most of the major navies of the world - other than the Soviet Navy - belong to countries which have been, and are expected to continue to be, friendly to the United States. Most of the larger and more capable navies belong to the NATO allies - e.g. the United Kingdom, France and Italy. In this paper, we will not spend a lot of time speculating on the details of their futures. In general, we should anticipate that Western European navies will suffer some budgetary cutbacks as well. But each of the NATO allies has individual national interests which require protection

overseas - some because of their abiding investments in and self-imposed responsibilities to former colonies; others because of their interests in free trade, access to markets, and freedom of the seas. Therefore, the NATO allies are not likely to take cuts in naval forces that would be much different than those to be imposed on the U.S. Navy. Some may not be threatened with major alterations in their current lineup of major combatants. It may be a case of restrictions and delays in force modernization or previously planned expansions that are the near-term budgetary victims. One thinks immediately of the planning for a new multinational NATO frigate, "NFR-90", which has been abandoned in the last year. Nevertheless, Western Europe and the Mediterranean should not change significantly with respect to their indigenous navies.

What is of greater interest are those navies which have emerged in recent years as regional powers outside of the NATO arena. In the western hemisphere, there are no navies which have the wherewithal to challenge the more stable international situation which has settled onto the lands of Central America since the Nicaraguan election and the Panamanian intervention. What's more, Cuba, which heretofore has sustained one of the largest navies in the hemisphere, is currently suffering from worsening political relations with the Soviet Union and is not likely to recover soon from her own economic problems.

In South America, most of the more formidable navies are in recession due to the international debt problems of their

nations. Predictably enough, the one nation moderately investing in new equipment is Chile, where the greatest progress is being made against inflation. But none of the South American navies appear to be building to establish clear leadership or dominance over the others.⁴⁷

There are certainly no recent challenging naval developments in Africa - either in the North or in sub-Saharan Africa.

Outside of NATO and the Soviet Union then, the most impressive navies are all in Asia: Japan, China, and India. We will look at the potential for each in the coming decade.

Japan

Despite the sometimes stressful competition between Japan and the United States in economic matters, the military-to-military relations between the two nations continue on excellent terms, especially between the U.S. Navy and the Japanese Maritime Self-Defense Force. What is even more encouraging is the congruence of long-term maritime interests in both nations. Japan is certainly at least as interested as the United States in free trade and freedom of the seas. Japan has become, over the years, a more important and more capable counterweight to the Soviet's Pacific Fleet. With fifteen diesel submarines, nearly 60 destroyers and frigates, over 50 P-3C maritime patrol aircraft (a total of 100 approved for acquisition) and new procurements of

at least 25 SH-60 SEAHAWK helicopters, the JMSDF is now better equipped to defend its merchant fleet according to its current charter, i.e. within 1000 nautical miles of the home islands. Japan is also acquiring the AEGIS weapon system for a new class of eight destroyers which will be enlarged and improved versions of the U.S. Navy's BURKE class.⁴⁸ Complemented by the F-15s and E-2Cs of the land-based air force, the Japanese have nearly all the tools of the most sophisticated navies, - all of which has been acquired, at least nominally, within a total defense budget restricted to one percent of Gross National Product. Among the few most advanced weapon systems not in the Maritime Self-Defense Force' inventory are nuclear-powered submarines, and aircraft carriers. It's not likely that nuclear-powered ships will be acceptable objects for Japanese acquisition for a long while. But there are some observers of the JMSDF who maintain that it's not a question of "if", but only "when" Japan will build their first aircraft carrier since World War II.⁴⁹ Certainly such "big-ticket" items could be included within a defense budget which is second only to the United States' among the democracies of the world.

So despite its performance in the first half of the twentieth century, Japan would appear to have joined the family of nations and embraced the international rules and cooperative efforts of the more developed democratic societies. The "1000 mile" mission to defend their SLOCs is one that was encouraged by the United States. Unquestionably, that range could be extended

almost overnight, particularly if Japan's oil supplies were jeopardized and their national economic life were threatened. In the past, such threats have been dealt with primarily by the United States Navy. If the U.S. Congress compromises with the Bush administration, the division of responsibilities between the two navies could remain the same, to the abiding satisfaction of Japan's more nervous Asian neighbors. However, should the naval balance of power in the Pacific begin to change to the disadvantage of the Japanese, or should the United States abandon its role in the Western Pacific and Indian Oceans, the JMSDF would be in a position to move into that void in a period of less than a decade.

China

China's Navy - The People's Liberation Army-Navy (PLA-N) - has the trappings of a naval power, but not necessarily the operational effectiveness of one. With two ballistic missile submarines - (one nuclear-powered, the other diesel) - four SSNs, and over 100 diesel attack boats the Chinese have an impressive order of battle. But the diesels are mostly old Soviet WHISKEY and ROMEO designs and roughly half of them are in non-operational reserve status. The SSBN and SSN programs have been very slow in developing and also have reliability problems. So we might characterize this submarine force as placing China at the threshold of becoming a major naval power ranking with France and the United Kingdom, but not yet there.⁵⁰ And the political

upheavals of 1989 have undoubtedly impeded progress in naval programs.

Nevertheless, China also has over 50 frigates and guided missile destroyers, a substantial amphibious capability, 28,000 marines (all garrisoned in southern China), and over 800 land-based maritime aircraft covering all naval mission areas.⁵¹ In addition to her long-standing problems with Taiwan, Vietnam, India and the Soviet Union, China remains willing to assert herself in maintaining her territorial claims in the South China Sea, that is, to the Paracel and Spratly Islands. It is apparently toward this end that China is now reported to be interested in acquiring RO-RO vessels to convert into air capable ships; the PRC is also reported to have been studying the development of a 48,000 ton fixed-wing-capable aircraft carrier, but should opt for the less-costly RO-RO adaptation.⁵² In summary, then, it appears that the Chinese have their naval hands full in their own front yard without competing with the Soviet Union, the United States or India.

India

The last major naval force in Asia is India's. But before we deal with that program, we should briefly survey their rival's in Pakistan. The core of the Pakistani Navy is its six French-built diesel submarines and a destroyer/frigate inventory of seventeen ships - six of which are World War II vintage.

(Moreover, eight of their newer frigates were quickly acquired from the United States in 1989 in response to the Indian naval buildup). The remainder of their ships are purely short-legged, defensive patrol boats, minesweepers, and auxiliaries.⁵³

India, on the other hand, has nineteen submarines, two aircraft carriers, 24 destroyers and frigates, and 12 corvettes. Five of the corvettes are of the Soviet TARANTUL I class and have already been delivered; the class had been expected to be extended to perhaps 24 ships,⁵⁴ but it has recently been announced by the Indian Minister of State for Defense that the class will be extended to a total of 35, - 15 of which will be build in Indian yards.⁵⁵ At least nine other corvettes of two different classes have been ordered; it is expected that all will be delivered by 1993.⁵⁶

In 1988, the Indian Navy took delivery from the Soviet Union of its first nuclear-powered attack submarine - a CHARLIE I SSGN. It has also been reported that despite problems with the nuclear power plant of the first SSGN, India has options on two or three more.⁵⁷

Both of India's aircraft carriers are nearing the end of their useful service life, having been commissioned in 1959 and 1961. They are due to be replaced by two new 40,000 ton aircraft carriers, of French design, to be built in Indian yards with the

first delivery in 1997. Ultimately this class should include four ships by the year 2015.⁵⁸

What does this all mean for the littoral and island nations of the Indian Ocean? An interesting interpretation was provided by Captain Richard Sharpe in *Jane's Fighting Ships* in April 1989:

"The Indian Navy took six percent of the defense budget in the 1970s, rising to 12 percent last year, and confidently expects to break through 20 percent by the end of the century. ... That India intends to be the dominant regional maritime power 'from Suez to Malacca' can no longer be in doubt. In addition, numerous high level pronouncements since the U.S. fleet sailed uninvited into the Bay of Bengal in 1971 have indicated a wish to be able to challenge Superpower supremacy at least at the level of normal US and Soviet Indian Ocean naval force deployments. The key question is whether expansionist aspirations extend beyond those first two objectives, ... Those on the Sub-Continent who may at first have doubted the utility of naval power must have been impressed by its successful application [by India] first in Sri Lanka and then in the Maldives. The Indian Navy was also quick to make its presence felt in the Gulf shortly after the ceasefire between Iran and Iraq. ... With its gigantic and growing population, its close ties to the Soviet Union, its nuclear research activity, its building up of bases in the Nicobar-Andaman region and its intention to build new strike attack aircraft carriers and modern submarines, India is beginning to appear to nations on the oceanic rim as a potentially belligerent state."⁵⁹

In his latest update, Sharpe's interpretation of Indian intentions was only slightly modified:

"For different reasons, the military incursions into Sri Lanka and the Maldives were both justified, but the willingness to project power has caused a tremor of anxiety as far away as the eastern ASEAN states and rather stronger reactions in the other Indian Ocean island groups of the Comoros, Madagascar, Mauritius and the Seychelles. In the search for control of natural resources in the region, India clearly intends to be in a strong position when the time comes to exploit them."⁶⁰

One might think that in making such pronouncements, Sharpe has overreacted and that India needs a strong navy for legitimate reasons. As Sharpe relates: "The explanation most often heard from the Indians themselves is that they fear collusion between Pakistan and China and the possibility of an increase in Chinese naval activity in the Indian Ocean." Perhaps, but the Chinese would appear to have few capital resources to be investing in such adventures and more pressing problems in the seas closer to home.

As far as being "able to mount a challenge to superpower supremacy at least at the level of normal US and Soviet Indian Ocean naval force deployments," it would appear that, through force of numbers of submarines, the Indian Navy could do that now. However, a serious challenge to a U.S. battle group is unlikely since, at least in 1990, such a challenge anywhere in the world would be met with additional U.S. naval forces with superior capabilities across the board. Further, there is not likely to be any cause for any nation to come into conflict with the U.S. in this region except to deny the flow of oil from the Persian Gulf. Certainly India has no interest in such far-flung adventures; besides, the nation which illegitimately attempts such a shut-off is very likely to be confronted not only by the U.S., but also by the European allies, and perhaps even Japan.

Prognosis

The National Security Strategy of the United States demands a great deal from the U.S. Navy and the expeditionary forces of the U.S. Marine Corps. Exclusive of political changes in Europe, it would seem that that strategy will be asking just as much in the 1990s as it did in the 1980s, but will be asking that the assigned tasks be performed with about 20 to 25 percent fewer forces. For both strategic and general-purpose naval forces, the President obviously means to send ships and task groups forward to be on-station and able to influence world events, as they have done in the past. In concrete terms, this means providing forces for stability in the Western Pacific, the Indian Ocean, the Mediterranean, and, occasionally, in the Caribbean. In each of these cases, neither the proximate nor remote objects of U.S. presence and pressure need be the Soviet Union. Rather, the nations and groups the United States intends to influence are primarily the potential instigators of trouble in these regions - the North Koreans, the radicals in Arab and Persian societies, the terrorists of transnational organizations, even the Marxist and Maoist insurgencies of Latin America, and, to a limited degree, the international drug cartels. The U.S. also intends to positively support friends and allies as well as internationally responsible neutrals. While the Soviet military threat is regressing, other U.S. national interests (which have always existed apart from the East-West confrontation) will not recede. The United States will still want to ensure free trade and freedom of navigation; to assist in the fostering of human

rights; and to encourage the development of nations in peaceful ways.

As the Warsaw Pact disintegrates and as the Soviet Union - for economic reasons - withdraws from its mischievous meddling in many Third World countries, the U.S. and other NATO members should be less prone toward translating each confrontation, between nations of the Third World, into East-West terms. The stronger democracies of NATO and the Pacific ought not to be as likely to overreact to each use of military force in the world. Since the spectre of attempted world domination by communists no longer looms large, free world nations should be more cautious in defining their "vital national interests". In this period there may even be opportunities to build diplomatic bridges with the USSR so that they will not return in 2010 as an even greater threat than they were in the 1980s.

In relations with the Third World, there may be challenges to U.S. naval superiority. However, as much as some regional powers may flex new naval capabilities in the next decade, none will be able to present more than a local and transitory challenge to the strength of the U.S. Navy. Should there occur a temporary regional disadvantage, in a showdown the United States could rapidly draw on other fleet resources to produce the level of superiority required. And for many years to come, even though many other navies will improve qualitatively and quantitatively, the U.S. will have technical superiority in submarines, surface combatants, aircraft and weapons.

How does all this "change" affect the U.S. "strategy" with respect to non-Soviet naval contingencies? In truth, for the next decade it should not affect the employment of U.S. naval assets very much at all. What should have been obvious all along is that the forward-deployed Navy and Marine Corps have been dealing primarily with all these various contingencies since World War II. And while the overarching strategic focus has been on deterring the Warsaw Pact from executing a major war, and on containing the spread of international communism, there has also been an abundance of limited actions involving a great variety of challenges around the world for four and a half decades.

What value judgements can we make regarding the capabilities of the world's two largest navies at the turn of the century? First, we can forecast a much tougher ASW problem being presented by the Soviets. (For that matter, almost every navy that modernizes its current diesel-electric submarine force will be presenting a stiffer challenge in stealthier and offensively more capable boats).

We can also project that, for the U.S. Navy, it would be the task of all ASW platforms - submarine, air and surface - to reduce the opponent's submarine threat to manageable levels before surface combatants press forward for power projection operations.

While the U.S. and NATO have little to fear from the offensive use of Soviet Navy surface combatants, they will be a more formidable force in defense of their SSBNs and the homeland.

On the other hand, the U.S. should be able to eventually advance with an even more powerful projection force - bolstered in both nuclear and conventional warheads by a larger inventory of Tomahawk missiles on an increasing number of more capable submarines and surface combatants. The multi-purpose aircraft carriers with their air wings will always be very useful for sea control and power projection, and will feature their strengths over the Tomahawk platforms: C³; far-reaching air ASW prosecutions in response to detections by air, surface, and subsurface platforms; nuclear and conventional weapons; strike weapons in abundance with rapid at-sea reload capabilities; and flexibility in targeting on short notice against both fixed and mobile targets. Their advance into forward areas is merely a question of timing.

As a result of the more difficult Soviet submarine threat, NATO countries should become more self-reliant in their air defense capabilities. Whereas they may be restricted by CFE accords in the number of tactical aircraft for defense, there are many other areas of current weakness which could be improved without violating CFE proposals now on the table: ground and airborne radars; command and control; hardening of facilities - from command centers to aircraft shelters; rapid runway repair

capabilities; realistic training; surface to air missiles, and so forth.

What would we forecast for naval arms control? This is a more difficult area in which to try to predict. Naval hardware takes several years to build and remains useful for several decades; so forecasts are less risky in such matters. Politics can change overnight. Nevertheless, it is unlikely that the United States Government will in this decade submit to limitations on numbers or types of ships, or predeployment notifications, or types of conventional weapons, or anything that restricts operations and freedom of the seas. Confidence Building Measures may be implemented so long as they do not impinge on the areas listed directly above; there is too much to be lost in terms of freedom of navigation for all maritime nations. For the U.S., there is no gain in any other areas of arms control, but much to be lost vis-a-vis the Soviets and the other ascendant regional naval powers.

So we can see somewhat clearly one decade ahead with regard to naval forces and capabilities. "Breakthroughs" take years of pursuit in scientific and engineering terms. There are not likely to be any flashing surprises.

The United States Navy is still committed to "a balanced Navy", one which will be superior at the point of contact no matter what the mission at sea. This brings to mind a recent writing of Colin Gray, said well by him but also presented by

others over the years in similar terms. In defining what it is that the U.S. Navy should maintain for capable forces, Gray writes:

"U.S. naval power should have the characteristics of:

- global reach (with only minor exceptions pertaining to militarily effectively closed sea areas);
- great flexibility;
- an offensive striking power of major defensive value;
- being always at sea in large numbers; and
- a willingness to give battle under most circumstances.

"These are not just 'nice to have' characteristics: they are qualities basic to superior seapower."⁶¹

With a reasonable effort from the U.S. Congress and the American people, the U.S. Navy should possess all those qualities through the turn of the century and beyond.

Notes

1. The White House, National Security Strategy of the United States. (Washington: March 1990). This 32-page document will be quoted extensively in the first section of this paper. Because of the brevity of the document, a page citation will not be provided in each instance.

2. Michael R. Gordon, "Military Services Propose Slashes in Existing Forces," The New York Times, May 12, 1990, pp. 1:6, 9:3-6.

3. Patrick E. Tyler, "Military Chiefs Detail Plans to Cut Troops, Weapons," The Washington Post, May 12, 1990, pp. A-1:3-6, A-12:1-4.

4. Richard Sharpe, ed. Jane's Fighting Ships, 1990-91, (London: Jane's Publishing Co., 1990), pp. 738-750.

5. Frank Elliot, "The Navy in 1987", U.S. Naval Institute Proceedings, May 1988, p. 147.

6. Bruce F. Powers, "Deployments Driven by World Events", Unpublished Presentation, Office of the Chief of Naval Operations (OP-05W), Washington: 1990.

7. Christopher C. Wright, "U.S. Naval Operations in 1983," U.S. Naval Institute Proceedings, May 1984, pp. 59-60.

8. John Brecher, et al, "To the Shores of Tripoli," Newsweek, August 31, 1981, p. 15.

9. Wright, "U.S. Naval Operations in 1986," U.S. Naval Institute Proceedings, May 1987, p. 33.

10. Richard Sharpe ed. Jane's Fighting Ships 1990-91, passim.

11. Michael R. Gordon and Erik Eckholm, "Global Change and Budget Cuts Test Pentagon", The New York Times, May 20, 1990, p. 28:1-5. See also: Michael R. Gordon, "Cheney Gives Plan to Reduce Forces by 25% in 5 Years," the New York Times, June 20, 1990, pp. A-1, A-18.

12. Ibid.

13. Erik Eckholm, "In Detente and Cutbacks, Navy Has Powerful Foes," New York Times, May 22, 1990, pp. A-1, B-8.

14. Gordon and Eckholm, p. 28.

15. Ibid. See also: William W. Kaufman, Glasnost, Perestroika and U.S. Defense Spending. (Washington: The Brookings Institution, 1990), p. 51.

16. Powers, op. cit.
17. Ibid.
18. Vice Admiral Daniel L. Cooper, USN, "Statement on Status of Submarine Force", U.S. Congress, House, Subcommittee on Seapower and Strategic and Critical Materials of the Armed Services Committee. Hearings. Washington: 7 March 1990, p. 17.
19. John F. Fitzgerald, "Top Submariner Tells Congress Budget Ceilings Will Shrink Fleet", The Hartford Courant, March 8, 1990, p. 9.
20. Cooper, op. cit., pp 19-20.
21. Cooper, "Statement on the FY 1991 Shipbuilding and Conversion, Navy Budget Request", U.S. Congress, Senate, Subcommittee on Defense of the Senate Appropriations Committee. Hearings. Washington: 15 May, 1990. p. 5.
22. Vice Admiral John W. Nyquist, USN, "Statement on the FY 1991 Shipbuilding and Conversion, Navy Budget Request", U.S. Congress, House, Subcommittee on Seapower of the House Armed Services Committee. Hearings. Washington: 28 February 1990. pp. 6, VG-1. See also Jane's Fighting Ships 1990-91, p. 722.
23. Michael M. McCrea et al., The Offensive Navy Since World War II: How Big and Why. (Alexandria, Va: Center for Naval Analyses, 1989), p. 10.
24. Sharpe, Jane's Fighting Ships, 1989-90, (London: Jane's Publishing Co., 1989), p. 740.
25. Nyquist, p. 7.
26. Tyler, p. A-12:3-4.
27. Ibid. p. A-1.
28. Jane's 1990-91, pp. 713-14, 752, 754.
29. Bernard E. Trainor, "Ex-Navy Chief Offers a Plan to Cut Spending," The New York Times, March 28, 1990, p. A-18: 1-4.
30. Admiral Carlisle A. H. Trost, USN, "Problems Will Outweigh Savings in Big Shift to Reserves", Navy Times, June 18, 1990, p. 27:1-4.
31. Trost, "Interview", U.S. Naval Institute Proceedings, June 1990, p. 70.
32. Grant Willis. "Joint Chiefs Vetoed Request to Use Reserves in Panama", Navy Times, June 11, 1990, pp. 27:1-3, 31:1-3.

33. Trost, "Interview", p. 70.
34. The White House, National Security Strategy of the United States, p. 1.
35. Jane's Fighting Ships, 1990-91, passim.
36. Rear Admiral Thomas A. Brooks, USN, Director of Naval Intelligence, "Statement on Intelligence Issues", U.S. Congress, House, Subcommittee on Seapower, Strategic and Critical Materials of the House Armed Services Committee. Hearings. Washington: 14 March 1990. p.27.
37. Jeffrey Ethell and Alfred Price, Air War South Atlantic. (London: Sidgwick & Jackson, 1983), pp. 234-245. See also: Max Hastings and Simon Jenkins, The Battle for the Falklands. (New York: Norton & Co., 1983), pp. 346-348.
38. Jane's Fighting Ships, 1990-91, p.[71].
39. Ibid. pp. 580-597.
40. Ibid. See also Brooks, p. 23.
41. Brooks, p. 25.
42. Jane's Fighting Ships, 1990-91, passim.
43. Ibid., p. 598. See also: Brooks, pp. 27-28.
44. The International Institute for Strategic Studies, The Military Balance, 1983-1984. (Cambridge, U.K.: Heffers Printers Ltd., 1983). pp. 14-16.
45. Ibid. p. 7.
46. National Security Strategy of the United States, p. 2.
47. Robert L. Scheina, "Latin American Navies," U.S. Naval Institute Proceedings, March 1990, pp. 110-115.
48. Jane's Fighting Ships, 1990-91, pp. 326-337.
49. J.V.P. Goldrick and P.D. Jones, "Far Eastern Navies," U.S. Naval Institute Proceedings, March 1990, pp. 150.
50. Jane's Fighting Ships, 1990-91, pp. 90-91.
51. Ibid., p. 114.
52. Barbara Starr, "China Considers Carrier Plans," Jane's Defense Weekly, 16 June 1990, p. 1186.
53. Jane's Fighting Ships, 1990-91, pp. 429-437.

54. Ibid., pp. 261, 268.
55. Sadananda Mukherjee, "India's Corvette Order Increased," Jane's Defense Weekly, 19 May 1990, p. 949.
56. Jane's Fighting Ships, 1990-91, p. 269.
57. Ibid., p. 262.
58. Ibid., p. 264.
59. Sharpe, Jane's Fighting Ships, 1989-90, p. [91].
60. Sharpe, Jane's Fighting Ships, 1990-91, p. [77].
61. Colin Gray, "An Approach to Naval Arms Control", Unpublished Paper, National Institute for Public Policy, Fairfax, VA: July 1989.

Bibliography

- Brecher, John, et al. "To the Shores of Tripoli." Newsweek. August 31, 1981, pp. 14-18.
- Brooks, Thomas A. "Statement on Intelligence Issues," U.S. Congress. House. Subcommittee on Seapower and Strategic and Critical Materials of the House Armed Services Committee. Hearings. Washington: 14 March 1990.
- Cooper, Daniel L. "Statement on Status of Submarine Force," U.S. Congress. House. Subcommittee on Seapower and Strategic and Critical Materials of the House Armed Services Committee. Hearings. Washington: 7 March 1990.
- _____. "Statement on the FY1991 Shipbuilding and Conversion, Navy Budget Request," U.S. Congress. Senate, Subcommittee on Defense of the Senate Appropriations Committee. Hearings. Washington: 15 May 1990.
- Eckholm, Eric. "In Detente and Cutbacks, Navy Has Powerful Foes," New York Times, May 22, 1990, pp. A-1, B-8.
- Elliot, Frank. "The Navy in 1987," U.S. Naval Institute Proceedings, May 1988, pp. 146-155.
- Ethell, Jeffrey and Price, Alfred. Air War South Atlantic. London: Sidgwick & Jackson, 1983.
- Fitzgerald, John F. "Top Submariner Tells Congress Budget Ceilings Will Shrink Fleet." The Hartford Courant, March 8, 1990, p. 9.
- Goldrick, J.V.P. and Jones, P.D. "Far Eastern Navies." U.S. Naval Institute Proceedings. March 1990. pp. 150-155.
- Gordon, Michael R. "Military Services Propose Slashes in Existing Forces." The New York Times, May 12, 1990, pp. 1:6, 9:3-6.
- _____. "Cheney Gives Plan to Reduce Forces by 25% in 5 Years." New York Times, June 20, 1990, p. A-1, A-18.
- Gordon, Michael R., and Eckholm, Erik. "Global Change and Budget Cuts Test Pentagon", The New York Times, May 20, 1990, pp. 1, 28.
- Gray, Colin, "An Approach to Naval Arms Control", Unpublished Paper, National Institute for Public Policy, Fairfax, VA: July 1989.
- Hastings, Max and Jenkins, Simon. The Battle for the Falklands. New York: Norton & Co., 1983.

- International Institute of Strategic Studies. The Military Balance, 1983-1984. Cambridge, U.K.: Heffers Printers Ltd., 1983.
- Kaufman, William W. Glasnost, Perestroika and U.S. Defense Spending. Washington: The Brookings Institution, 1990.
- McCrea, Michael M., et al. The Offensive Navy Since World War II: How Big and Why. Alexandria, VA: Center for Naval Analyses, 1989.
- Mukherjee, Sadananda. "India's Corvette Order Increased." Jane's Defense Weekly. 15 May 1990. p. 949.
- Nyquist, John W. "Statement on the FY 1991 Shipbuilding and Conversion, Navy Budget Request". U.S. Congress. House. Subcommittee on Seapower of the House Armed Services Committee. Hearings. Washington: 28 February 1990.
- Powers, Bruce F., "Deployments Driven by World Events", Unpublished Presentation, Office of the Chief of Naval Operations (OP-05W), Washington: 1990.
- Scheina, Robert L. "Latin American Navies". U.S. Naval Institute Proceedings, March 1990, pp. 110-115.
- Sharpe, Richard, ed. Jane's Fighting Ships, 1990-91, London: Jane's Publishing Co., 1990.
- _____. Jane's Fighting Ships, 1989-90, London: Jane's Publishing Co., 1989.
- Starr, Barbara. "China Considers Carrier Plans." Jane's Defense Weekly. 16 June 1990. p. 1186.
- The White House. National Security Strategy of the United States. Washington: March 1990.
- Trainor, Bernard E. "Ex-Navy Chief Offers a Plan to Cut Spending." New York Times. March 28, 1990. p. A18: 1-4.
- Trost, Carlisle A. H., "Problems Will Outweigh Savings in Big Shift to Reserves," Navy Times. June 18, 1990. p. 27.
- _____. "Interview". U.S. Naval Institute Proceedings, June 1990, pp. 69-72.
- Tyler, Patrick E. "Military Chiefs Detail Plans to Cut Troops, Weapons," The Washington Post, May 12, 1990, pp. A-1:3-6, A-12:1-4.
- Willis, Grant. "Joint Chiefs Vetoed Request to Use Reserves in Panama." Navy Times, June 11, 1990. pp. 27, 31.

Wright, Christopher C. "U.S. Naval Operations in 1986." U.S. Naval Institute Proceedings, May 1987, pp. 30-43.

_____. "U.S. Naval Operations in 1983." U.S. Naval Institute Proceedings, May 1984, pp. 52-67, 285-295.